

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13666

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ H01L31/04, H01L33/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H01L31, 33

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 9-162434 A (Hitachi, Ltd.), 20 June, 1997 (20.06.97), (Family: none)	1-14
Y	JP 2000-22184 A (Nippon Telegraph And Telephone Corp.), 21 January, 2000 (21.01.00), (Family: none)	1-14
A	WO 03/17383 A (Takesuke NAKATA), 27 February, 2003 (27.02.03), & TW 530326 B	1-14
A	WO 01/99202 A (Ball Semiconductor, Inc.), 27 December, 2001 (27.12.01), & US 6355873 B	1-14

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

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"&" document member of the same patent family

Date of the actual completion of the international search
08 January, 2004 (08.01.04)Date of mailing of the international search report
27 January, 2004 (27.01.04)Name and mailing address of the ISA/
Japanese Patent Office

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2001-168369 A (Takasuke NAKATA), 22 June, 2001 (22.06.01), (Family: none)	1-14